Evaluation of acute renal failure after coronary artery surgery in Imam Khomeini Hospital in the year 2014 and the factors affecting it

Abstract

Introduction: Incidence of acute renal failure after surgery is one of the most common and important complication of coronary artery bypass surgery which brings a lot of problems for patients. This study was conducted to evaluate acute renal failure after coronary artery surgery in Imam Khomeini Hospital in the year 2014 and the factors affecting it.

Materials and Methods: All patients who had undergone CABG surgery during 2014, were extracted from the archives of Imam Khomeini hospital of Ardabil. The information included sex, age, history of heart disease, preoperative high blood pressure, preoperative serum creatinine levels, history of COPD, diabetes mellitus, chronic heart failure and etc. On the first, second, and third day after the process of surgery, patients were evaluated in terms of getting ARF and this was used as an indicator for ARF incidence calculation.

Results: The prevalence of acute renal failure (ARF) after CABG was 18.1%. There was a significant relationship between incidence of ARF and age (P=0.0078), hypertension (P=0.0372), heart ejection fraction (P=0.0004), intraoperative bleeding (P=0.044), and using inotropic after surgery (P<0.001); But there was no statistical relationship between incidence of ARF and gender (P=0.311), Preoperative creatinine level (P=0.243), diabetes (P=0.358), clamp duration (P=0.626), bypass duration (P=0.518), number of grafts (P=0.729), use of IABP (P=0.276), history of chronic heart failure (P=0.467), and history of obstructive pulmonary disease (P=0.190).

Conclusion: In general, according to the results of this study that showed that incidence of acute renal failure was high (18.1%) after coronary artery bypass surgery, and because the incidence of this complication causes new issues for the patients and increases their health care costs, therefore, more hospital care should be considered to these patients in order to reduce ARF prevalence.

Keywords: Coronary heart disease, coronary artery bypass graft, acute renal failure.